

[Designation of Document] Claims

[Claim 1]

An amplifier characterized by comprising:

an amplifier device; and

5 an LC parallel resonant circuit and an LCR series resonant circuit provided in parallel as a load for the amplifier device.

[Claim 2]

An amplifier characterized by comprising:

10 an amplifier device; and

a band-pass filter provided as a load for the amplifier device and having an s-plane in which a plurality of poles are provided and zeros are provided between the poles.

[Claim 3]

15 An amplifier according to claim 2, characterized in that the band-pass filter does not have a capacitor provided in series with an output terminal of the amplifier.

[Claim 4]

20 An amplifier according to claim 2, characterized in that an inductance and a capacitor are not provided in series between an output terminal of the amplifier device and an output terminal of the amplifier.

[Claim 5]

25 An amplifier according to either of claims 1 or 2, characterized in that a common-gate circuit and a cascode circuit are combined.

[Claim 6]

30 An amplifier according to either of claims 1 or 2, characterized in that a common-source circuit, a cascode circuit and a voltage feedback circuit are combined.

[Claim 7]

A wireless communication apparatus characterized by comprising:

an antenna, a band-pass filter, a low noise amplifier which amplifies a voltage of a received signal, a
5 down-converter which down-converts the voltage-amplified received signal by frequency conversion, an automatic gain controller, an analog-digital converter, and a signal processing circuit which performs digital signal processing of received data, wherein

10 the low noise amplifier is made of an amplifier according to either of claims 1 or 2.

[Claim 8]

A wireless communication apparatus characterized by comprising:

15 an antenna, a band-pass filter, a low noise amplifier which amplifies a voltage of a received signal, a down-converter which down-converts the voltage-amplified received signal by frequency conversion, an automatic gain controller, an analog-digital converter, a digital-analog
20 converter which converts transmit data to an analog signal, an up-converter which up-converts the analog transmit signal by frequency conversion, a power amplifier which amplifies power of the up-converted transmit signal, and a signal processing circuit which performs digital signal processing
25 of transmit/receive data, wherein

the low noise amplifier is made of an amplifier according to either of claims 1 or 2.